

Completed Return-On-Investment Project Case Study



United States Department of Energy
Office of Environmental Management
Fact Sheet

CIF Blowdown to ETF Savannah River Site, South Carolina

Original Problem

The Consolidated Incinerator Facility (CIF) produces a liquid radioactive waste stream from treatment and quench of the incinerator off gasses. This liquid was stabilized with a cement-type mixture prior to disposal. Approximately 600 cubic meters of solidified LLW were generated each year from this operation.



The ROI Project Solution

SRS found that this liquid waste stream could be adequately treated by its existing F/H Effluent Treatment Facility (ETF). To implement this solution, SRS modified the process configuration of the CIF and ETF facilities, obtained regulatory approval, and procured a liquid waste transport trailer.

DOE Monetary Benefits

Cost	\$246,000
Lifecycle Savings	\$45,000,000
Return on Investment	~ 1,800 %

Value Of Improvement

The project results in savings of \$4.5 Million per year and avoidance of 595 m3 LLW. Worker risk associated with the operation of the old stabilization system and LLW handling is now eliminated.

Note: Due to budget shortfalls, CIF operations may be curtailed. Benefits are based on continued operation of the CIF with a 10 year project life.

Benefits At-A-Glance

- Avoid generation of solid radioactive waste.
- Eliminate risk associated with the operation of the waste stabilization system.
- Realize significant cost savings

Lifecycle Waste Reduction

Life Cycle Waste Reduction	5,950 m3
Operation Commencement Date	1/99
Project Useful Life (Years)	10 years

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Summary Data

ROI Priority Area:	Waste Management
ROI Project Type:	Volume and Hazard Reduction
Project Cost:	\$246,000
Lifecycle Savings:	\$45,000,000
Implementing Group:	EM, SRS Solid Waste Division
Benefiting Group:	EM, SRS Solid Waste Division
Useful Life Years:	10 Years (Based on continued CIF operations)
Return On Investment:	~ 1,800 %
Lifecycle Waste Reduction:	5,950 m3
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